



Mirror Radius

INCH

METRIC

Recommended Cutting Data for Mirror Radius - Side Finishing

Material	Grade	SFM		6mm	8mm 5/16"	10mm 3/8"	12mm 1/2"	16mm 5/8"	20mm 3/4"	25mm 1"	30mm 32mm 1-1/4"
Gray Cast Iron (200-250 HB)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	1200	RPM	18,000	15,000	12,000	9,000	7,300	6,000	4,600	3,600
			IPM	200	180	190	180	175	180	165	145
			DOC	.025"	.030"	.035"	.040"	.045"	.050"	.055"	.060"
			WOC	.003"	.003"	.004"	.004"	.005"	.005"	.006"	.006"
Nodular Cast Iron (180-250 HB)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	1000	RPM	15,000	12,300	10,000	7,600	6,000	5,000	3,800	3,000
			IPM	180	150	160	150	145	150	135	120
			DOC	.025"	.030"	.035"	.040"	.045"	.050"	.055"	.060"
			WOC	.003"	.003"	.004"	.004"	.005"	.005"	.006"	.006"
Carbon Steel	DH103 (JC5003 / JC8003) JC8015 (JC5015)	900	RPM	13,700	11,000	9,000	6,800	5,500	4,600	3,400	2,700
			IPM	165	130	145	110	90	75	70	55
			DOC	.020"	.020"	.025"	.025"	.035"	.040"	.045"	.050"
			WOC	.003"	.003"	.004"	.004"	.005"	.005"	.006"	.006"
Low Alloy Steel	DH103 (JC5003 / JC8003) JC8015 (JC5015)	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	145	120	100	90	80	65	60	50
			DOC	.020"	.020"	.025"	.025"	.030"	.030"	.035"	.035"
			WOC	.003"	.003"	.004"	.005"	.005"	.005"	.006"	.006"
Mold Steel (30-40 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	145	160	165	145	150	120	110	100
			DOC	.020"	.025"	.030"	.035"	.040"	.045"	.050"	.060"
			WOC	.003"	.004"	.005"	.006"	.007"	.008"	.008"	.010"
Tool & Die Steel (40-50 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	550	RPM	8,400	6,700	5,600	4,200	3,400	2,800	2,100	1,700
			IPM	100	90	90	70	70	60	50	40
			DOC	.015"	.015"	.020"	.025"	.030"	.035"	.040"	.040"
			WOC	.003"	.004"	.004"	.005"	.005"	.006"	.006"	.008"
Hardened Die Steel (50-60 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	450	RPM	6,900	5,500	4,600	3,400	2,700	2,300	1,700	1,300
			IPM	55	45	55	40	45	35	35	25
			DOC	.010"	.012"	.015"	.020"	.025"	.030"	.035"	.040"
			WOC	.003"	.003"	.004"	.004"	.005"	.005"	.005"	.005"
Stainless Steel (45 HRC)	JC8015 (JC5015) DH103 (JC5003 / JC8003)	650	RPM	9,900	8,000	6,600	5,000	3,900	3,300	2,400	2,000
			IPM	100	80	80	75	60	55	50	40
			DOC	.015"	.018"	.020"	.025"	.030"	.035"	.040"	.040"
			WOC	.003"	.004"	.005"	.005"	.006"	.006"	.008"	.008"
Titanium	JC8015 (JC5015) DH103 (JC5003 / JC8003)	300	RPM	4,500	3,600	3,000	2,300	1,800	1,500	1,100	900
			IPM	36	28	24	18	18	15	13	11
			DOC	.008"	.010"	.012"	.015"	.018"	.020"	.025"	.030"
			WOC	.003"	.003"	.004"	.004"	.004"	.004"	.005"	.005"
Copper Alloys	DH103 (JC5003 / JC8003) JC8015 (JC5015)	700	RPM	10,700	8,600	7,100	5,300	4,300	3,500	2,700	2,100
			IPM	130	100	115	85	85	70	65	50
			DOC	.010"	.012"	.012"	.015"	.015"	.020"	.025"	.030"
			WOC	.003"	.004"	.004"	.004"	.006"	.006"	.006"	.008"
Aluminum	JC8015 (JC5015) DH103 (JC5003 / JC8003)	1500	RPM	23,000	18,000	15,000	11,500	9,100	7,600	5,700	4,600
			IPM	275	220	240	190	180	185	170	140
			DOC	.020"	.025"	.030"	.035"	.040"	.045"	.050"	.060"
			WOC	.004"	.004"	.006"	.006"	.008"	.008"	.010"	.010"

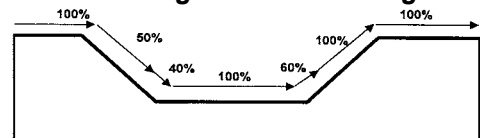
- NOTE:** 1. These parameters represent stable machining with a steel body at lengths 4XD. See table below for longer applications.
 2. Parameters for carbide bodies can be run with 25% more surface footage & chip load.
 3. For best performance use carbide bodies on tools 5/8" diameter and smaller over 3XD.
 4. Maximum ramping angle of up to 2°30' recommended.
 5. IPT = IPM / RPM / # of teeth

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.1~4.5	4.6~5.3	5.4~5.7	5.8~6.2	6.3~6.8	6.9~
rpm %	100	90	80	80	75	70	65
Feed %	100	90	90	80	75	70	65

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern



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Mirror Radius

Recommended Cutting Data for Mirror Radius - Bottom Finishing

Material	Grade	SFM	Diameter								
			6mm	8mm 5/16"	10mm 3/8"	12mm 1/2"	16mm 5/8"	20mm 3/4"	25mm 1"	30mm 32mm 1-1/4"	
Gray Cast Iron (200-250 HB)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	1200	RPM	18,000	15,000	12,000	9,000	7,300	6,000	4,600	3,600
			IPM	200	180	190	145	145	120	110	85
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Nodular Cast Iron (180-250 HB)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	1000	RPM	15,000	12,300	10,000	7,600	6,000	5,000	3,800	3,000
			IPM	180	150	160	120	120	100	90	75
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Carbon Steel	DH103 (JC5003 / JC8003) JC8015 (JC5015)	900	RPM	13,700	11,000	9,000	6,800	5,500	4,600	3,400	2,700
			IPM	150	135	110	110	90	75	70	55
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Low Alloy Steel	DH103 (JC5003 / JC8003) JC8015 (JC5015)	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	135	120	100	95	80	70	60	50
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Mold Steel (30-40 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	145	120	130	95	100	95	80	75
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Tool & Die Steel (40-50 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	550	RPM	8,400	6,700	5,600	4,200	3,400	2,800	2,100	1,700
			IPM	70	70	60	50	40	45	35	30
			DOC	.005"	.005"	.006"	.006"	.007"	.007"	.008"	.008"
			WOC	.050"	.065"	.075"	.100"	.125"	.150"	.200"	.250"
Hardened Die Steel (50-60 HRC)	DH103 (JC5003 / JC8003) JC8015 (JC5015)	450	RPM	6,900	5,500	4,600	3,400	2,700	2,300	1,700	1,300
			IPM	55	45	45	35	30	25	25	20
			DOC	.005"	.005"	.006"	.006"	.007"	.007"	.008"	.008"
			WOC	.050"	.065"	.075"	.100"	.125"	.150"	.200"	.250"
Stainless Steel (45 HRC)	JC8015 (JC5015) DH103 (JC5003 / JC8003)	650	RPM	9,900	8,000	6,600	5,000	3,900	3,300	2,400	2,000
			IPM	120	100	90	70	60	55	50	40
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Titanium	DH103 (JC5003 / JC8003) JC8015 (JC5015)	300	RPM	4,500	3,600	3,000	2,300	1,800	1,500	1,100	900
			IPM	27	22	24	18	18	15	13	11
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.050"	.065"	.075"	.100"	.125"	.150"	.200"	.250"
Copper Alloys	JC8015 (JC5015) DH103 (JC5003 / JC8003)	700	RPM	10,700	8,600	7,100	5,300	4,300	3,500	2,700	2,100
			IPM	130	100	115	85	90	70	65	50
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Aluminum	JC8015 (JC5015) DH103 (JC5003 / JC8003)	1500	RPM	23,000	18,000	15,000	11,500	9,100	7,600	5,700	4,600
			IPM	275	220	240	190	180	150	140	110
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"

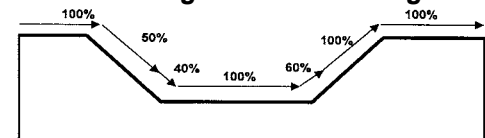
- NOTE:** 1. These parameters represent stable machining with a steel body at lengths 4XD. See table below for longer applications.
 2. Parameters for carbide bodies can be run with 25% more surface footage & chip load.
 3. For best performance use carbide bodies on tools 5/8" diameter and smaller over 3XD.
 4. Maximum ramping angle of up to 2°30' recommended.
 5. IPT = IPM / RPM / # of teeth

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.1~4.5	4.6~5.3	5.4~5.7	5.8~6.2	6.3~6.8	6.9~
rpm %	100	90	80	80	75	70	65
Feed %	100	90	90	80	75	70	65

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern



Mirror Radius

INCH

METRIC

Recommended Cutting Data for Mirror Radius - High Feed

Material	Grade	SFM		6mm	8mm 5/16"	10mm 3/8"	12mm 1/2"	16mm 5/8"	20mm 3/4"	25mm 1"	30mm 32mm 1-1/4"
				RPM	IPM	DOC	WOC	RPM	IPM	DOC	WOC
Gray Cast Iron (200-250 HB)	DH102 (JC6102) JC8015	1200	RPM	18,000	15,000	12,000	9,000	7,300	6,000	4,600	3,600
			IPM	280	240	240	180	175	145	140	110
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Nodular Cast Iron (180-250 HB)	DH102 (JC6102) JC8015	1000	RPM	15,000	12,300	10,000	7,600	6,000	5,000	3,800	3,000
			IPM	240	200	200	150	145	120	115	90
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Carbon Steel	DH102 (JC6102) JC8015	900	RPM	13,700	11,000	9,000	6,800	5,500	4,600	3,400	2,700
			IPM	220	180	180	135	130	110	100	80
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Low Alloy Steel	DH102 (JC6102) JC8015	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	190	160	165	120	120	100	90	75
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Mold Steel (30-40 HRC)	DH102 (JC6102) JC8015	800	RPM	12,000	9,800	8,200	6,000	4,900	4,000	3,000	2,500
			IPM	195	175	165	120	120	120	120	100
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Tool & Die Steel (40-50 HRC)	DH102 (JC6102) JC8015	550	RPM	8,400	6,700	5,600	4,200	3,400	2,800	2,100	1,700
			IPM	100	80	90	70	70	55	50	40
			DOC	.005"	.005"	.006"	.006"	.007"	.007"	.008"	.008"
			WOC	.075"	.095"	.110"	.150"	.190"	.225"	.300"	.375"
Hardened Die Steel (50-60 HRC)	DH102 (JC6102) JC8015	450	RPM	6,900	5,500	4,600	3,400	2,700	2,300	1,700	1,300
			IPM	80	65	75	55	55	45	40	30
			DOC	.005"	.005"	.006"	.006"	.007"	.007"	.008"	.008"
			WOC	.050"	.065"	.075"	.100"	.125"	.150"	.200"	.250"
Stainless Steel (45 HRC)	JC8015	650	RPM	10,000	8,000	6,600	5,000	3,900	3,300	2,400	2,000
			IPM	120	130	130	100	80	80	60	60
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Titanium	JC8015	300	RPM	4,500	3,600	3,000	2,300	1,800	1,500	1,100	900
			IPM	55	45	35	35	30	25	22	18
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.050"	.065"	.075"	.100"	.125"	.150"	.200"	.250"
Copper Alloys	DH102 (JC6102) JC8015	700	RPM	10,700	8,600	7,100	5,300	4,300	3,500	2,700	2,100
			IPM	170	140	145	105	100	85	80	65
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"
Aluminum	JC8015 DH102 (JC6102)	1500	RPM	23,000	18,000	15,000	11,500	9,100	7,600	5,700	4,600
			IPM	275	220	300	230	220	180	170	185
			DOC	.006"	.006"	.006"	.008"	.008"	.008"	.010"	.010"
			WOC	.095"	.125"	.150"	.200"	.250"	.300"	.400"	.500"

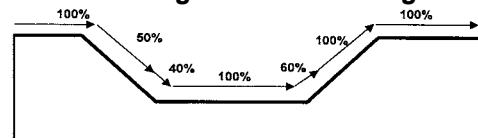
- NOTE:** 1. These parameters represent stable machining with a steel body at lengths 4XD. See table below for longer applications.
 2. Parameters for carbide bodies can be run with 25% more surface footage & chip load.
 3. For best performance use carbide bodies on tools 5/8" diameter and smaller over 3XD.
 4. Maximum ramping angle of up to 2°30' recommended.
 5. IPT = IPM / RPM / # of teeth

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.1~4.5	4.6~5.3	5.4~5.7	5.8~6.2	6.3~6.8	6.9~
rpm %	100	90	80	80	75	70	65
Feed %	100	90	90	80	75	70	65

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern